

1014-Q1-1469 **Paul R McCreary*** (paul.mccreary@gmail.com), 807 N Orchard, Urbana, IL 61801. *Exploring Proteins and Hyperbolic Surfaces Using 3D Computer Graphics*. Preliminary report.

Computer-based 3D models provide an exciting and interesting context for investigating structures of large molecules and mathematical objects. We visualize proteins that complex with DNA and with other proteins using software that has the capability of "flying" around and through the models. The software was originally designed for interactively viewing hyperbolic 3-space and contains examples of hyperbolic isometries. The mathematical and biochemical visualizations can be viewed on single workstations or in 3D systems using passive stereo filters and glasses. At Xavier University we have used this software in an interdisciplinary seminar for mathematics and biochemistry majors. The computer application requires no additional software and is free to download from the following website. new.math.uiuc.edu/~paulmcc/atp.zip (Received September 28, 2005)